Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) In a radio network having a plurality of base stations, each providing duplex wireless communication services in a respective geographic coverage area that may or may not overlap with the geographic coverage areas of other of the base stations, and an interface connected to the base stations, a method for establishing wireless communication comprising:

transmitting an omnidirectional sounding pulse from a wireless mobile unit located in a geographic coverage area of at least one of the base stations;

communicating information related to the detected sounding pulse to the interface by each base station detecting the sounding pulse;

selecting a base station from among the base stations that detected the sounding pulse for mobile unit communication based on the communicated information; and

directing a communication beam from the selected base station to the mobile unit to establish wireless communication.

2. (Original) The method of claim 1 wherein:

the radio network is a UMTS Terrestrial Radio Access Network (UTRAN), each base station is a Node B, the interface is a Radio Network Controller (RNC) and the mobile unit is a mobile User Equipment (UE);

the communicating information is between Node Bs and the RNC via an Iub or combination Iub/Iur interface;

the base station selection is performed by the RNC by selecting a Node B; and

the communication established between the selected Node B and the UE is via a Uu interface.

3. (Original) The method of claim 2 wherein each Node B has a selectively operable beamforming antenna, further comprising:

determining a relative location of the UE with respect to the beamforming antenna of the selected Node B based on information related to the detected sounding pulse whereby the directing of a communication beam includes operating the selected Node B's antenna to form a communication beam covering a selected portion of the coverage area serviced by the selected Node B that encompasses the relative location of the UE.

4. (Previously presented) The method of claim 3 wherein the formed communication beam carries common channels and the operating of the selected Node B's antenna to form a communication beam that encompasses the relative location of the UE is conducted such that other UEs with which the selected Node B is conducting wireless communication are also encompassed within the formed communication beam so that the formed beam provides common channel service to a plurality of UEs.

5. (Original) The method of claim 1 wherein each base station has a selectively operable beamforming antenna, further comprising:

determining a relative location of the mobile unit with respect to the beamforming antenna of the selected base station based on information related to the detected sounding pulse whereby the directing of a communication beam includes operating the selected base station's antenna to form a communication beam covering a selected portion of the coverage area serviced by the selected base station that encompasses the relative location of the mobile unit.

6. (Original) The method of claim 5 wherein the formed communication beam carries common channels and the operating the selected base station's antenna to form a communication beam that encompasses the relative location of the mobile unit is conducted such that other mobile units with which the selected base station is conducting wireless communication are also encompassed within the formed communication beam so that the formed beam provides common channel service to a plurality of mobile units.

7. (Original) The method of claim 1 wherein the method is restarted if the mobile unit does not receive a directed communication beam from a base station within a predefined time period from its transmitting of an omnidirectional sounding pulse.

8. (Original) The method of claim 1 further comprising monitoring the power level of a directed communication beam from a base station that is received by the mobile unit and repeating the method of claim 1 if the monitored power level falls below a predefined level.

9. (Original) The method of claim 1 wherein:

the transmitting of an omnidirectional sounding pulse is from each of a plurality of mobile units;

the communicating information includes communicating information related to each distinguishable sounding pulse from each respective mobile unit detected by a base station to a respective selecting interface for base station selection with the respective mobile unit;

the base station selection includes selecting a base station by each respective selecting interface for each respective mobile unit communication based on the information related to the distinguishable detected sounding pulse of the respective mobile unit from each base station that detected a distinguishable sounding pulse of the respective mobile unit; and

for each respective mobile unit for which at least one base station received a distinguishable sounding pulse, directing a communication beam from the respective selected base station to the mobile unit to establish wireless communication.

10. (Original) The method of claim 9 wherein:

the radio network is a UMTS Terrestrial Radio Access Network (UTRAN), each base station is a Node B, each interface is a Radio Network Controller (RNC) and each mobile unit is a mobile User Equipment (UE);

the communicating between Node Bs and each selecting RNC is via an Iub or combination Iub/Iur interface; and

the respective communication established between each selected Node B and the respective UE is via a Uu interface.

11. (Original) The method of claim 9 wherein each base station has a selectively operable beamforming antenna, further comprising:

determining the relative location of each mobile unit with respect to the beamforming antenna of the respective selected base station based on information related to the detected sounding pulse of the respective mobile unit whereby the respective directing of a communication beam includes operating the respective selected base station's antenna to form a communication beam covering a selected portion of the predefined coverage area serviced by the respective selected base station that encompasses the relative location of the respective mobile unit.

12. (Previously presented) The method of claim 11 wherein:

the formed communication beams carry common channels;

a first base station is selected for communication with a first mobile unit and is also selected for communication with a second mobile unit; and

the operating of the first base station's antenna to form a communication beam is conducted such that both first and second mobile units are encompassed within the formed communication beam and the formed beam provides common channel service to both first and second mobile units.

13. (Original) The method of claim 9 wherein:

a first base station is selected for communication with a first mobile unit by a first selected interface; and

a second base station is selected for communication with a second mobile unit by a second selected interface.

14. (Original) The method of claim 9 wherein the method is restarted for each mobile unit that does not receive a directed beam communication from a base station within a predefined time period from its transmitting of an omnidirectional sounding pulse.

15. (Original) The method of claim 9 wherein the transmitting of an omnidirectional sounding pulse from each of a plurality of mobile units includes transmitting of mobile unit identification information associated with the sounding pulse transmitted by each respective mobile unit.

16. (Previously presented) The method of claim 9 wherein:

each of the mobile units is equipped with a global positioning system (GPS); and

the transmitting of an omnidirectional sounding pulse from each of a plurality of mobile units includes transmitting of mobile unit location information associated with the sounding pulse transmitted by each respective mobile unit.

17. (Original) The method of claim 9 wherein the transmitting of an omnidirectional sounding pulse from each of a plurality of mobile units includes transmitting a subsequent sounding pulse of increased power by each mobile unit that does not receive a directed beam communication from a base station within a predefined time period from its transmitting of an omnidirectional sounding pulse.

18. (Original) The method of claim 9 wherein the transmitting of an omnidirectional sounding pulse from each of a plurality of mobile units includes

transmitting a series of omnidirectional sounding pulses of increasing power from each of a plurality of mobile units.

19. (Previously presented) The method of claim 1 wherein the transmitting of an omnidirectional sounding pulse includes transmitting of identification information associated with the sounding pulse transmitted by the mobile unit.

20. (Original) The method of claim 1 wherein the mobile unit is equipped with a global positioning system (GPS) and the transmitting of an omnidirectional sounding pulse includes transmitting of mobile unit location information associated with the sounding pulse transmitted by the mobile unit.

21. (Original) The method of claim 1 wherein the transmitting of an omnidirectional sounding pulse includes transmitting a subsequent sounding pulse of increased power by the mobile unit if it does not receive a directed beam communication from a base station within a predefined time period from its transmitting of an omnidirectional sounding pulse.

22. (Original) The method of claim 1 wherein the transmitting of an omnidirectional sounding pulse includes transmitting a series of omnidirectional sounding pulses of increasing power from the mobile unit.

23. (Currently amended) A communication network for wireless communication with mobile units comprising:

a plurality of base stations, each providing duplex wireless communication services in a geographic coverage area that may or may not overlap with the geographic coverage areas of other of the base stations;

at least one base station interface connected to the base stations;

each base station configured to detect sounding pulses emitted from mobile units in order to establish ~~establishment~~ wireless communication with such mobile units;

each base station configured to communicate information related to a detected sounding pulse from a mobile unit to a selected interface;

each interface, when selected, configured to select a base station for wireless communication with a mobile unit that transmitted a sounding pulse based on the information communicated from each base station that detected the sounding pulse emitted from that mobile unit; and

each base station configured to direct a communication beam when selected to a respective mobile unit to establish wireless communication.

24. (Original) The invention of claim 23 wherein the radio network is a UMTS Terrestrial Radio Access Network (UTRAN), each base station is a Node B configured to communicate with mobile units configured as mobile User Equipments (UEs) via a Uu interface, and each base station interface is a Radio Network Controller (RNC) configured for communicating information with the Node Bs via an Iub interface or combination Iub/Iur interface in connection with another RNC.

25. (Original) The invention of claim 24 wherein each Node B has a selectively operable beamforming antenna configurable to direct a communication

beam covering a selected portion of the coverage area serviced by the Node B that encompasses the relative location of a UE when that Node B is selected to communicate with the UE.

26. (Original) The invention of claim 25 wherein each Node B is configured to operate its antenna to form a communication beam that carries common channels that encompasses the relative location of a plurality of UEs so that the formed beam provides common channel service to a plurality of UEs.

27. (Previously presented) The invention of claim 24 wherein:

each base station has a selectively operable beamforming antenna,

each interface is configured to determine a relative location of a mobile unit that emitted a sounding pulse with respect to the beamforming antenna of a base station that it selects to communicate with the mobile unit based on information related to the detected sounding pulse from the mobile unit, and

each base station is configured to operate its antenna when selected by an interface to form a communication beam covering a selected portion of its coverage area that encompasses the relative location of the mobile unit as determined by the interface.

28. (Original) The invention of claim 24 further comprising mobile units, each configured to transmit an omnidirectional sounding pulse to initiate communication with a base station.

29. (Previously presented) The invention of claim 28 wherein the mobile units are each configured to monitor the power level of a directed communication

beam from a base station that is received by the mobile unit and to transmit an omnidirectional sounding pulse if the monitored power level falls below a predefined level.

30. (Original) The invention of claim 28 wherein each mobile unit is configured to transmit a subsequent omnidirectional sounding pulse if a directed communication beam is not received from a base station within a predefined time period from transmitting an omnidirectional sounding pulse.

31. (Previously presented) The invention of claim 28 wherein each mobile unit is equipped with a global positioning system (GPS) and is configured to transmit [[of]] an omnidirectional sounding pulse that includes mobile unit location information determined by its GPS.

32. (Previously presented) The invention of claim 28 wherein each mobile unit is configured to transmit an omnidirectional sounding pulse that includes mobile unit identification information.

33. (Original) The invention of claim 24 further comprising mobile units, each configured to transmit an omnidirectional sounding pulse to initiate communication with a base station and to transmit a subsequent sounding pulse of increased power if a directed communication beam from a base station is not received within a predefined time period from its transmitting of an omnidirectional sounding pulse.

34. (Original) The invention of claim 24 further comprising mobile units, each configured to transmit a series of omnidirectional sounding pulses of increasing power to initiate communication with a base station.

35. (Previously presented) In a radio network having a plurality of base stations, each providing duplex wireless communication services in a respective geographic coverage area that may or may not overlap with the geographic coverage areas of other of the base stations, a method for establishing wireless communication comprising:

transmitting an omnidirectional sounding pulse from a wireless mobile unit located in a geographic coverage area of at least one of the base stations;

directing a communication beam from base stations detecting the sounding pulse towards the mobile unit;

selecting a base station from among the base stations that detected the sounding pulse based on the communication beams received by the mobile unit; and

establishing a wireless communication between the selected base station and the mobile unit.

36. (Original) The method of claim 35 wherein the radio network has an interface connected to the base stations, further comprising:

communicating information related to the detected sounding pulse to the interface by each base station detecting the sounding pulse;

choosing one or more of the base stations that detected the sounding pulse for mobile unit communication based on the communicated information so that only the chosen base stations direct a communication beam to the mobile unit.

37. (Original) The method of claim 36 wherein:

the radio network is a UMTS Terrestrial Radio Access Network (UTRAN), each base station is a Node B, the interface is a Radio Network Controller (RNC) and the mobile unit is a mobile User Equipment (UE);

the communicating information is between Node Bs and the RNC via an Iub or combination Iub/Iur interface; and

the communication established between the selected Node B and the UE is via a Uu interface.

38. (Original) The method of claim 37 wherein each Node B has a selectively operable beamforming antenna, further comprising:

determining a relative location of the UE with respect to the beamforming antenna of each sounding pulse detecting Node B based on information related to the detected sounding pulse whereby the directing of a communication beam includes operating the respective Node Bs' antennas to form communication beams that each cover a selected portion of the coverage area serviced by the respective Node B that encompasses the relative location of the UE.

39. (Previously presented) The method of claim 38 wherein each respective formed communication beam carries common channels and the operating of each Node B's antenna to form a communication beam that encompasses the relative location of the UE is conducted such that other UEs with which the respective Node B is conducting wireless communication are also encompassed within the formed communication beam.

40. (Original) The method of claim 35 wherein each base station has a selectively operable beamforming antenna, further comprising:

determining a relative location of the mobile unit with respect to the beamforming antenna of each sounding pulse receiving base station based on information related to the detected sounding pulse whereby the directing of a communication beam includes operating the respective base station's antenna to form a communication beam covering a selected portion of the coverage area serviced by the respective base station that encompasses the relative location of the mobile unit.

41. (Previously presented) The method of claim 40 wherein each respective formed communication beam carries common channels and the operating of each respective base station's antenna to form a communication beam that encompasses the relative location of the mobile unit is conducted such that other mobile units with which the respective base station is conducting wireless communication are also encompassed within the formed communication beam.

42. (Original) The method of claim 35 wherein the method is restarted if the mobile unit does not receive a directed communication beam from a base station within a predefined time period from its transmitting of an omnidirectional sounding pulse.

43. (Original) The method of claim 35 further comprising monitoring the power level of a directed communication beam between a base station and the mobile unit and repeating the method of claim 34 if the monitored power level falls below a predefined level.

44. (Previously presented) The method of claim 35 wherein the transmitting of an omnidirectional sounding pulse includes transmitting of identification information associated with the sounding pulse transmitted by the mobile unit.

45. (Original) The method of claim 35 wherein the mobile unit is equipped with a global positioning system (GPS) and the transmitting of an omnidirectional sounding pulse includes transmitting of mobile unit location information associated with the sounding pulse transmitted by the mobile unit.

46. (Original) The method of claim 35 wherein the transmitting of an omnidirectional sounding pulse includes transmitting a subsequent sounding pulse of increased power by the mobile unit if it does not receive a directed communication beam from a base station within a predefined time period from its transmitting of an omnidirectional sounding pulse.

47. (Original) The method of claim 35 wherein the transmitting of an omnidirectional sounding pulse includes transmitting a series of omnidirectional sounding pulses of increasing power from the mobile unit.

48. (Previously presented) A mobile unit for use in a radio network having a plurality of base stations, each base station providing duplex wireless communication services in a respective geographic coverage area that may or may not overlap with the geographic coverage areas of other of the base stations, the mobile unit comprising:

a transmitter configured to transmit an omnidirectional sounding pulse;

a receiver for receiving communication beams from base stations that detected a sounding pulse transmitted by the mobile unit; and

a processor configured to select a base station with which to establish a wireless communication based on communication beams received by the mobile unit from base stations that detected a sounding pulse transmitted by the mobile unit.

49. (Previously presented) The invention of claim 48 wherein the mobile unit is configured to monitor the power level of a wireless communication with a base station and to transmit an omnidirectional sounding pulse if the monitored power level falls below a predefined level.

50. (Original) The invention of claim 48 wherein the mobile unit is configured to transmit a subsequent omnidirectional sounding pulse if a communication beam is not received from a base station that detected a sounding pulse transmitted by the mobile unit within a predefined time period from transmitting an omnidirectional sounding pulse.

51. (Previously presented) The invention of claim 48 wherein the mobile unit is equipped with a global positioning system (GPS) and is configured to transmit of an omnidirectional sounding pulse that includes mobile unit location information determined by its GPS.

52. (Original) The invention of claim 48 wherein the mobile unit is configured to transmit of an omnidirectional sounding pulse that includes mobile unit identification information.

53. (Original) The invention of claim 48 wherein the mobile unit is configured to transmit an omnidirectional sounding pulse to initiate communication with a base station and to transmit a subsequent sounding pulse of increased power if a communication beam from a base station that detected a sounding pulse transmitted by the mobile unit is not received within a predefined time period from the transmitting of an omnidirectional sounding pulse.

54. (Original) The invention of claim 48 wherein the mobile unit is configured to transmit a series of omnidirectional sounding pulses of increasing power to initiate communication with a base station.

55. (Currently amended) A communication network for wireless communication comprising:

a plurality of base stations, each providing duplex wireless communication services in a geographic coverage area that may or may not overlap with the geographic coverage areas of other of the base stations;

each base station configured to detect sounding pulses emitted from mobile units in order to establish ~~establishment~~ wireless communication with such mobile units; and

a plurality of mobile units, each including:

a transmitter configured to transmit an omnidirectional sounding pulse;

a receiver for receiving communication beams from base stations that detected a sounding pulse transmitted by the mobile unit; and

a processor configured to select a base station with which to establish a wireless communication based on communication beams received by the mobile unit from base stations that detected a sounding pulse transmitted by the mobile unit.

56. (Original) The invention of claim 55 further comprising:

at least one base station interface connected to the base stations;

each base station configured to communicating information related to a detected sounding pulse from a mobile unit to a selected interface;

each interface, when selected, configured to chose base stations to direct a communication beam to a mobile unit that transmitted a sounding pulse based on the information communicated from each base station that detected the sounding pulse emitted from that mobile unit; and

each base station configured to direct a communication beam to a respective mobile unit only when chosen.